State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt Governor Ted Stewart Executive Director James W. Carter

Division Director

355 West North Temple 3 Triad Center, Suite 350 Salt Lake City, Utah 84180-1203 801-538-5340 801-359-3940 (Fax) 801-538-5319 (TDD)

October 27, 1995

Allan R. Cerny, Secretary Western States Minerals Corporation 4975 Van Gordon Street Wheat Ridge, Colorado 80033

Re:

Second Request for Reduction in Reclamation Surety Bond, Western States Minerals Corporation, Drum Mine, M/027/007, Millard County, Utah

Dear Mr. Cerny:

I am responding to your September 12, 1995 letter requesting an immediate reduction in Western States Minerals Corporation's (WSMC) surety for the Drum Mine from \$264,080 to \$124,700. At this time I cannot approve this request.

The basis for my denial is twofold:

First, your request is predicated on Division reclamation cost estimates that are not part of an approved Division agency action. Your letter references the Division's *preliminary* reclamation cost estimate that was based upon a standard escalation of WSMC's original (1983) reclamation surety estimate. This *preliminary* cost estimate also includes Jumbo Mining Company's (JMC) approved mine plan modifications to WSMC's original permit and more recently proposed permit revisions that have not yet been approved.

The interim cost estimate does not reflect the actual as-built conditions as they presently exist at the Drum Mine. It is only a preliminary ball-park estimate of projected reclamation costs, assuming that the mining operation was constructed according to WSMC's originally approved design plans. We have reason to believe that some of the mine facilities may not have been constructed in accordance with the original approved plan. In order to confirm that the interim cost estimate is indeed accurate, an in-depth comparison of the actual as-built conditions against the original approved design plans would need to be performed. Until this assessment can be conducted (or until JMC posts the adequate reclamation surety and permit transfer occurs), we are not prepared to release or reduce WSMC's \$264,080 surety.

Second, the Bureau of Land Management (BLM) will not consent to a reduction in WSMC's reclamation surety until an updated operating and reclamation plan, contemplating reclamation of all regulated disturbances at the Drum Mine, has been approved by the BLM and appropriate state agencies and adequate replacement surety has been posted by JMC.

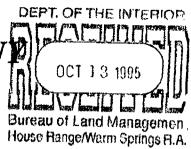


	FACSIMILE TRANSMISSION COVER SHEET
DATE:	FACSIMILE TRANSMISSION COVER SHEET DOGMOGRAM 10 - 25 - 95 MINERALS COPY
TO:	D. Wayne Hedberg
COMPANY:	D09W
LOCATION:	SLC
FAX NUMBER	(801) 359-3940
FROM:	Rody Cox
COMPANY:	BLM
LOCATION:	Fillmore
FAX NUMBER:	FTS 322-6800 (801) 743-5112 TELEPHONE NUMBER: (801) 743-6811
TOTAL NUMBE	OR OF PAGES 15 (INCLUDING COVER SHEET)
MESSAGE:	RE: Jumbo Mining Cois
	Drum Mine

hay sh

JUMBO MINING COMPANY

6305 Fern Spring Cove Austin, Texas 78730 512-346-4537 (Ph.) 512-346-3188 (Fax)



October 10,1995

File: DOG10095.doc

D. Wayne Hedberg, Permit Supervisor State of Utah, Dept. of Natural Resources Utah Division of Oil, Gas and Mining 355 West North Temple 3 Triad Center - Suite 350 Salt Lake City, Utah 84180-1203

Phone:

801-538-5340

Fax:

801-359-3940

RE: Response to DOGM letter dated July 11, 1995

Dear Mr. Hedberg:

The Division's letter dated July 11, 1995 required Jumbo to submit a draft interim maintenance plan that outlines measures to control and contain any runoff from the heaps during and after a rainstorm. DOGM is assuming that WAD cyanide (in concentrations above drinking water standards) is still being released in runoff during a rainstorm. We will show that cyanide has been rinsed or neutralized to acceptable levels and the possibility of ground water contamination from cyanide or other contaminants is highly unlikely, without further residual measures.

During our sampling of the perched aquifer which concluded on June 27th, we also collected samples (under the same approved procedures and protocol) from the pregnant and barren ponds as well as a sample from runoff of heaps 4 & 5 (only heaps draining at the time). The pregnant pond contained approximately 1.7 million gallons of water at the time of sampling which represents heap runoff during the previous spring storms. The barren pond contained approximately 0.5 million gallons of old process water which has been diluted during the last 5 years from direct rainfall. Water runoff (less than 1 gpm) from heaps 4 & 5 was from a major rainstorm one week earlier and would represent the final draindown of a heap after a storm. Samples were analyzed by American West Analytical for WAD and total cyanide, metals, chloride, nitrate and TDS (results included).

We can conclude from our sampling and previous studies that there is no reasonable possibility of ground water or surface contamination because of the following reasons:

Letter To Mr. Hedberg October 10, 1995 File: DOG10095,doc

- 1. There is no known ground water, as defined in Utah law, within miles of the mine area. The depth of ground water is unknown as drill holes greater than 1,000 feet have been drilled in the area with no penetration into ground water.
- 2. The WAD and total cyanide concentrations in the preg pond are below drinking water standards (DWS) of 0.20 ppm. This water represents heap runoff and would be equivalent to water which may be released through any holes in the ditch liners. Cyanide, which was the only hazardous chemical used during mining operations, is biodegradable and occurs naturally in nature. Since heap runoff is below DWS for WAD cyanide, we can conclude that the heaps have been rinsed to our permit requirements.
- 3. WAD cyanide was even below DWS from the final draindown of a major storm in runoff from heaps 4 & 5. This final draindown solution would be from water percolating through higher impermeable zones (areas of least amount of rinsing or flushing) and would contain the highest levels of contaminants. This rinsate represents only a small fraction of rainwater that would percolate through the heaps during a major storm. Even though the total cyanide was above DWS (due to tightly bound gold-cyanide complexes), the average concentration of total cyanide from runoff should be diluted to concentrations below DWS similar to the preg pond solution.
- 4. WAD and total cyanide concentrations were below DWS in the barren pond.
- 5. All metal (As, Cd, Cr, Pb and Hg) concentrations were not detectable or below DWS for both ponds and heap 4/5 runoff.
- 6. Chloride concentrations were above DWS of 250 ppm but previous samples collected from the Busby Spring (approximately 1/2 mile east and 50-100' higher in elevation) and our water well (approximately 7 miles south) also contained chloride concentrations above DWS (915 ppm for the spring and 845 ppm for well water). Regional ground water flows to the northwest towards Fish Springs. All ground water data collected from wells northwest of the mine to Fish Springs contained chloride concentrations from 1,000 to > 10,000 ppm (data from Plate 1, USGS Technical Publication No. 64).
- 7. Nitrate concentrations (22 ppm for the preg pond) were above the 10 ppm DWS but previous sampling of the Busby Spring showed that nitrate was also above DWS at 49 ppm. All nitrate concentrations are below 100 ppm which is the U.S. EPA (1972) limit for livestock watering. Nitrate should also be beneficial in our revegetation program.
- 8. The amount of rain water required to carry any contaminants to a known ground water supply through several miles horizontally and thousands of feet vertically of soil and rock would be such a large quantity that any contaminants would be greatly diluted to well below DWS. The eventual discharge would be into ground water already above DWS for several constituents.

Letter To Mr. Hedberg October 10, 1995

File: DOG10095.doc

Since it is unlikely that groundwater will be contaminated from any solution that may be released from the heaps, Jumbo should not have to repair or maintain the collection ditches. The heaps are considered to be rinsed (especially for WAD cyanide) to industry standards and should be allowed to drain freely which will be the case when reclamation occurs and the heaps are recontoured off the pad liners with the return ditch and pond liners being severed and buried.

If there are any questions or if you require further information from Jumbo, please give me a call. As always, either Dave Hartshorn or I will be pleased to discuss these topics with you.

Sincerely,

E. B. King for

Dave Hartshorn, Project Manager

cc: BLM Fillmore (Rody Cox)

COMPARISON OF ANALYTICAL DATA FROM MONITORING HOLES IN THE PERCHED AQUIFER AT THE DRUM MINE

	MH 7 (1991)	MH 7 (1995)	MH 8 (1991)	MH 8 (1995)
As	0.093	0.006	0.015	<0.005
Cd	<0,005	0.008	<0.005	0.004
Cr	0.240	0.020	<0.005	0.020
Pb	0.310	<0.050	<0.100	<0.050
Hg	<0.0002	< 0.001	<0.002	<0.001
Chloride	4,600	3,800	3,720	2,600
Total CN	0.170	0.081	0,210	0.170
WAD CN	NA NA	0.015	NA	0,026
Nitrate	NA	7.000	NA	13.0
TDS	10,622	8,700	9,730	6,700

	MH 17 (1991)	MH 17 (1995)	MH 33 (1991)	MH 33 (1995)
As	0.012	<0.005	0.037	<0.005
Cd	<0.005	<0.004	<0.005	<0.004
Cr	0.020	0.010	0.090	0.010
Pb	0.028	<0.050	<0.100	<0.050
Hg	0,0006	< 0.001	<0.0002	<0.001
Chloride	3,080	1,700	2,500	1,400
Total CN	0.210	0.160	0.440	0.150
WAD CN	NA	0.019	NA	0.011
Nitrate	NA	19.0	NA	38.0
TDS	8,196	6,300	7,890	6,500

·	MH 34 (1991)	MH 34 (1995)
As	0.012	<0.005
Cd Cr	<0.005	< 0.004
Cr	0.030	0.020
Pb	<0.100	<0,050
Hg	0.0008	<0.001
Chloride	2,780	1,700
Total CN	0.440	0.220
WAD CN	NA	0.029
Nitrate	NA	31.0
TDS	8,296	6,700

DRINKING WATER			
STANDARD 0.050			
	-		
0.010	_		
0,050)		
0.050)		
0,002	2		
250)		
0.200	}		
0.200)		
10.0)		
2,000)		

Concentrations are in mg/l

From : JUMBO/DRUM 8018644365

Aug. 05. 1995 08:16 PM





INORGANIC ANALYSIS REPORT

WEST ANALYTICAL I.ABORATORIES

Client: Jumbo Mining
Date Sampled: June 27, 1995
Lab Sample ID.: 22963-01
Field Sample ID.: Drum Mine/MH-7

Contact: Ed King
Date Received: June 28, 1995
Received By: Blona Hayward
Set Description: Five Water Samples

Analytical I	Res	u	lts	ì
--------------	-----	---	-----	---

463 West 3600 South Salt Lake City, Utah 84115	W SCHIC	Method Used: 7060	Detection Limit: mg/L 0.005	Amount <u>Detected:</u> mg/L 0.006
	Cadmium Chromium	6010 6010	0,004	0.008
(801) 263-8686 Fax (801) 263-8687	Lead	6010	0.01	0.02 <0.05
	Mercury OTHER CHEMISTRIES	7471	0.001	<0.001
	Chloride	4500 CLB	0.5	3,800.
	Cyanide (Total)	335.3	0.005	0.081
	Cyunide (WAD)	335.3	0.005	0.015
	Nitrate (as N)	353.2	10.0	7.0
	TDS	160.1	1.0	8,700.

Released by:

P02

From: JUMBO/DRUM 8018644365



INORGANIC ANALYSIS REPORT

WEST ANALYTICAL LABORATORIES

Client: Jumbo Mining
Date Sampled: June 27, 1995
Lab Sample ID.: 22963-02
Field Sample ID.: Drum Mine/MH-8

Contact: Ed King
Date Received: June 28, 1995
Received By: Elona Hayward
Set Description: Five Water Samples

	Analytical Results			A see a see a
	TOTAL METALS	Method Used:	Detection Limit: mg/L	Amount Detected: mg/L
163 West 3600 South Sali Lake City, Utah	Arsenic	7060	0.005	<0.005
84115	Cadmium	6010	0.004	0.004
	Chromium	6010	0.01	0.02
(801) 263-8686 Pax (801) 263-8687	Lend	6010	0.05	<0.05
	Mercury	7471	0.001	<0.001
	OTHER CHEMISTRIES	<u> </u>		
	Chloride	4500 CLB	0.5	2,600.
	Cyanide (Total)	335.3	0.005	0.17
widter of the const	Cyunide (WAD)	335.3	0.005	0.026
	Nitrate (as N)	353.2	0.01	13.
	TOS	160.1	1.0	6,700.

Released by:

From : JUMBO/DRUM 8018644365

Aug. 05. 1995 08:16 PM



AMERICAN WEST **ANALYTICAL LABORATORIES**

INORGANIC ANALYSIS REPORT

Client: Jumbo Mining
Date Sampled: June 27, 1995
Lab Sample ID.: 22963-03
Field Sample ID.: Drum Mine/MH-17

Contact: Ed King
Date Received: June 28, 1995
Received By: Elona Hayward
Set Description: Five Water Samples

Ana	lytical	Results

	THE PERSON NAMED IN TAXABLE PARTY OF THE PERSON NAMED IN TAXABLE PARTY OF	7-7-7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
	TOTAL METALS	Method Used:	Detection Limit: mg/L	Amount Detected: mg/L
463 West 3600 South Salt Lake City, Utah	Arsenic	7060	0.005	<0.005
84115	Cadmium	6010	0.004	<0.004
	Chromium	6010	0.01	0.01
(801) 263-8686 Fax (801) 263-8687	Lead	6010	0.05	<0.05
	Mercury	7471	0.001	<0.001
	OTHER CHEMISTRIES	******		
	Chloride	4500 CLB	0.5	1,700.
	Cyanide (Total)	335,3	0.005	0.16
, i	Cyanide (WAD)	335.3	0.005	0.019
	Nitrate (as N)	353.2	0.01	19.
	TD\$	160.1	1.0	6,300.
		:	•	

Released by:

Aug. 05. 1995 08:16 PM



AMERICAN WEST ANALYTICAL **LABORATORIES**

INORGANIC ANALYSIS REPORT

Client: Jumbo Mining
Date Sampled: June 27, 1995
Lab Sample ID.: 22963-04
Field Sample ID.: Drum Mine/MH-33

Contact: Ed King
Date Received: June 28, 1995
Received By: Elona Hayward
Set Description: Five Water Samples

Ana	lytic	call	Resi	ılts

	taitaiy titati accounto	_:			
	TOTAL METALS	Method Used:	Detection Limit: mg/L	Amount Detected: mg/L	
463 West 3600 South Salt Lake City, Utah	Arsenic	7060	0.005	<0.005	
84115	Cadmium	6010	0.004	<0.004	
	Chromium	6010	0.01	0.01	
(801) 263-8686 Fax (801) 263-8687	Lead	6010	0.05	<0.05	
	Mercury	7471	0.001	<0.001	
	OTHER CHEMISTRIES		•		
	Chloride	4500 CLB	0.5	1,400.	
ing the second of the second o	Cyanide (Total)	335.3	0.005	0.15	
	Cyanide (WAD)	335.3	0.005	0.011	
	Nitrate (as N)	353.2	0.01	38.	
	TDS	160.1	1.0	6,500.	

Released by:

P05





INORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES

Client: Jumbo Mining
Date Sampled: June 27, 1995
Lab Sample ID.: 22963-05
Field Sample ID.: Drum Mine/MH-34

Contact: Ed King
Date Received: June 28, 1995
Received By: Blona Hayward
Sct Description: Five Water Samples

Analytical Results

	Analytical Results			
	TOTAL METALS	Method Used:	Detection Limit: mg/L	Amount Detected: mg/L
463 West 3600 South Salt Lake City, Utah 84115	Arsenic	7060	0.005	<0.005
	Cadmium	6010	0.004	<0.004
,	Chromium	6010	0.01	0.02
(801) 263-8686 Fax (801) 263-8687	Lead	6010	0.05	<0.05
	Mercury	7471	0.001	<0.001
	OTHER CHEMISTRIES			
	Chloride	4500 CLB	0.5	1,700.
	Cyanide (Total)	335.3	0.005	0.22
	Cyanide (WAD)	335.3	0.005	0.029
	Nitrate (as N)	353.2	0.01	31.
	TDS	160.1	1.0	6,700.
			•	

NORESS 6305 FEON SOR	od a Alace	WEST	•	CHAIN OF CUST	STODY
Austid TA	78730	LABORATORIES 463 West 3600 South			and the second
5/2	88	SAILS SALLS	(201) 243-8686 Frz (201) 243-8687	AR# 220	
CONTACT ED KING			111111	"""	9
STE DRUM MINE				SIV.	
Due fulle					TURN AROUND THES S
SAMPLED	2 407.13			I Principal I	ب
-	DATE/TIME MATRIX	*/6/2/19/19/19/2/2/2/2/2/2/2/2/2/2/2/2/2/2/		A Seeders	Ay Number of Series
	5-27-65 WATER	1-		COMMENTS	NTS:
MH.B	6-37-85 "			2	11
	6-37-65	711111		2	
14-33	6-27-65			5	
MH-34	12.30.2			5	
				٥.	•
			,		
					•
			_		
Qoote # (P.O. #		200	C. 25130)	DateTime
Special Instructions SEND . Copy - or	RESULTS YOU	PRINTENDE DAVE HARTSHOKN			
Jumes MINING		k	Date Time Received By: Son	ă	Desta
P. B. 2. 000					0:
X		PKENT KANE Disputched Br. S.	PRINT KAME		11
WELTH UT			A COLOR	The Longe	Prior pre
847-464-468 847-8664-488		PRINT NAME	PRINTRAME	11.	;
					Š





PIORGANIC ANALYSIS REPORT

WEST ANALYTICAL LABORATORIES

Client: Rinchem

Date Received: February 21, 1995
Lab Sample ID Number: 21624-06
Field Sample ID: BLM-Jumbo Minc/4B1 & 4B2 Upper Berm

Contact: Kimmel King Received By: Elona Hayward

Really rinsate from

BLM Samples

	Analytical Results		اره مي د ما	ing Carbon class
		Metbod Usedi	Detection Limit;	Amount Detected:
463 West 3600 South Salt Lake City, Utah	TCLP MRTALS	1311	mg/L.	mg/L.
84115	Amenic	7060	0.5	<0.5
(801) 263-8686 Fax (801) 263-8687	Barium	6010	0.05	0.39
	Cadmium	6010	0.03	<0.03
	Chromium	6010	0.05	<0.05
	Lead	6010	0.1	<0.1
•	Mercury	7471	0.05	<0.05
	Scienium	7740	0.1	<0.1
	Silver OTHER CHEMISTRIE	6010	0.1 ·	<0.1
	Cyanide	335.3	0.005	16.

Report Date 3/2/95

1 of 1

The ro five explored by the property of explication desired by the common of the common of the role of the property of the role of the rol

BLM Samples



WEST ANALYTICAL LABORATORIES

463 Wast 3600 Struth Salt Lake City, Utah

(601) 263-8686 Fax (801) 263-8687

INORGANIC ANALYSIS REPORT

Client: Rinchem

Contact: Kimmel King Received By: Riona Hayward

Date Received: February 21, 1995
Lab Sample ID Number: 21624-01
Field Sample ID: BLM-Jambo Mine/001-Pregnant Pond

Analytical Results			A WARRED
:	Method Used:	Detection Limit: mg/L	Detected: mg/L
TCLP METALS	1311		
Arsenic	7060	0.5	<0.5
Badum	6010	0.05	< 0,05
Cadmium	6010	0.03	<0.03
Chromium	6010	0.05	<0.05
Lead	6010	. 0.1	<0.1
Mercury	7471	0.05	<0.05
Scienium	7740	0.1	<0.1
Silver	6010	0.1	<0.1
OTHER CHEMISTRIE			
Cyanide	335.3	0.005	0.38

Roleased by:

Report Date 3/2/95

The report is provided for the reclaim of the addressed priviledes of augregoths use of the ame of this commany addressed for the trous of the report of the provided of the trous of the provided for the provided that the provided that the provided for the provi

200

26/90/00

BLM Samples



AMERICAN WEST ANALYTICAL LABORATORIES

IN ORGANIC ANALYSIS REPORT

Client: Rinchem

Connect Kimmel King Received By: Elona Hayward

Date Received: Pebruary 21, 1995 Rece Lab Sample ID Number: 21624-03 Field Sample ID: BLM-Jimbo Mine/003-Leach Run-Off

	Analytical Results			
		Method Land:	Detection Limit: mg/L	Amount Detected: mg/L
63 West 3600 South Salt Lake City, Utah	TCLP METALS	1311		
84115	Arsenic	7060 .,	0.5	<0.5
(801) 263-8686 Fax (801) 263-8687	Bariun	6010	0.05	<0.05
	Cadarium	6010	0.03	<0.03
	Chromium	6010	0.05	<0.05
	Load	6010	0.1	<0.1
	Мессику	7471	0.05	<0.05
	Selenium	7740	0.1	<0.1
	Silver	6010	0.1 ,	<0.1
	OTHER CHEMISTRIES			
	Cyanide :	335.3	0.005	0.33

Report Date 3/2/95

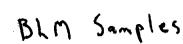
1 of 1

Pha no yhadhoo shit do bhan but no best the does and hive motions but no best to best dought and though the statement of the

700 Z

98/90/EO

015





, תטו ואיבי

WEST ANALYTICAL LABORATORIES

INORGANIC ANALYSIS REPORT

Client: Rinchem

Contact: Kimmel King

Received By: Rions Hayward

Date Received: February 21, 1995 Lab Sample ID Number: 21624-02

Field Sample ID: BLM-Jumbo Mins/002-Barren Pond

	Analytical Results			
		Method Used:	Detection Limit: mg/L	Amount Detected: mg/l.
63 West 3500 South Salt Lake City, Utah 84115	TCLPMETALS	1311	biga.	milio.
	Arsenic	7060	0.5	<0.5
(801) 263-8686 Pax (801) 263-8687	Barium	6010	0.05	<0.05
	Cadmium	6010	0.03	<0.03
	Chromium	6010	0.05	<0.05
	Lead	6010	0.1	<0.1
	Mercury	7471	0.05	<0.05
	Scienium	7740	0.1	<0.1
	Silver	6010	0.1	<0.1
	OTHER CHEMISTRIES	***************************************		
	Cyanide	335.3	0.005	0.084

Report Date 3/2/95

PARA NO PHARMOS MILY NO BRANE BY THE COMPANY OF RESERVOID THE CONTROL OF THE CONT

900

98/90/20